

II. LISTING OF CLAIMS:

This listing of claims is provided solely for the courtesy of the Office. There is no difference than the prior listing of claims.

1. (Currently Amended) A method of creating an equivalent model for an integrated circuit (IC) and package, the IC including a plurality of input/outputs (I/Os), the method comprising the steps of:

generating an intermediate model by partitioning the IC into a plurality of simulation windows having a substantially similar characteristic;

converting I/Os within each simulation window to a current source; and

generating the equivalent model for at least one simulation window based on an observed current change rate of the simulation window during a simulation, including:

a) simulating operation of the intermediate model and monitoring a current change rate of the at least one simulation window; and

b) converting the current change rate of each simulation window to respective I/Os based on known I/O current change rates to generate the equivalent model, including converting to actual I/Os based on known current rate changes of I/Os and maintaining actual ratios of different types of I/Os within each simulation window.

2. (Cancelled)

3. (Cancelled)

4. (Original) The method of claim 1, wherein each current source has substantially the same current change rate as the I/Os.
5. (Original) The method of claim 1, wherein the substantially similar characteristic is inductance and capacitance.
6. (Original) The method of claim 1, further comprising the step of determining a parasitic characteristic of each simulation window.
7. (Original) The method of claim 1, further comprising the step of calculating the observed current change rate based on an observed voltage drop and a known inductance.
8. (Currently Amended) A computer program product comprising a computer useable medium having computer readable program code embodied therein for creating a simplified equivalent model for an integrated circuit (IC) and package, the program product comprising:
 - program code configured to generate an intermediate model by partitioning the IC into a plurality of simulation windows having a substantially similar characteristic;
 - program code configured to convert an I/O within each simulation window to a current source; and
 - program code configured to generate the equivalent model for a simulation window based on an observed current change rate of the simulation window during a simulation.

wherein the equivalent model generating program code includes:

a) program code configured to simulate operation of the intermediate model and monitor a current change rate of the at least one simulation window; and

b) program code configured to convert the current change rate of each simulation window to I/Os based on known I/O current change rates to generate the equivalent model, including converting each current source to actual I/Os based on known current rate changes of I/Os and maintains actual ratios of different types of I/Os within each simulation window.

9. (Cancelled)

10. (Cancelled)

11. (Original) The program product of claim 8, wherein each current source has substantially the same current change rate as the I/Os.

12. (Original) The program product of claim 8, wherein the substantially similar characteristic is inductance and capacitance.

13. (Original) The program product of claim 8, wherein the intermediate model generating program code includes program code configured to determine a parasitic characteristic of each simulation window.

14. (Original) The program product of claim 8, further comprising program code configured to calculate the observed current change rate based on an observed voltage drop and a known inductance.

15. (Currently Amended) A computer system for creating an equivalent model for an integrated circuit (IC) and package, the system comprising:

an intermediate model generator that generates an intermediate model by partitioning the IC into a plurality of simulation windows having a substantially similar characteristic;

an I/O converter that converts I/Os within each simulation window to a current source;

and

an equivalent model generator that generates the equivalent model for a simulation window based on an observed current change rate of the simulation window during a simulation, and converts each current source to actual I/Os based on known current rate changes of I/Os and maintains actual ratios of different types of I/Os within each simulation window.

16. (Cancelled)

17. (Original) The system of claim 15, wherein each current source has substantially the same current change rate as the I/Os.

18. (Original) The system of claim 15, wherein the substantially similar characteristic is

inductance and capacitance.

19. (Original) The system of claim 15, wherein the intermediate model generator determines a parasitic characteristic of each simulation window.

20. (Original) The system of claim 15, wherein the observed current change rate is based on an observed voltage drop and a known inductance.